

National Curriculum Science - Knowledge

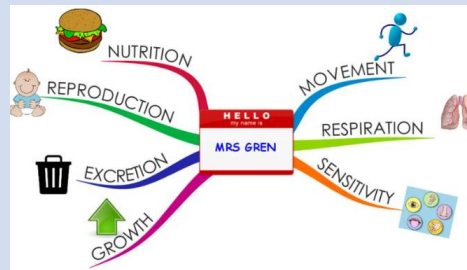
Key Learning

Vocabulary

- Recognise that living things can be grouped in a variety of ways
- Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment
- Recognise that environments can change and that this can sometimes pose dangers to living things.

Life Processes: To stay alive and healthy, all living things (organisms) need certain conditions to carry out the 7 life processes.

- M**- movement
- R**- respiration
- S**- sensitivity
- G**- growth
- R**- reproduction
- E**- excretion
- N**- nutrition

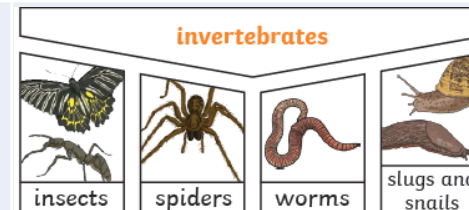
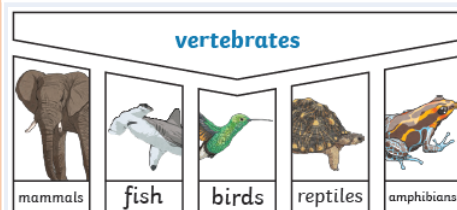


Living things can be sorted based on their characteristics. We can use Venn and Carroll diagrams to help sort them.



	Lives in water	Lives on land
Has legs	Crab Sea otter	Horse Spider
Does not have legs	Whale Fish	Snake Worm

Animals can be sorted into different groups based on their characteristics.



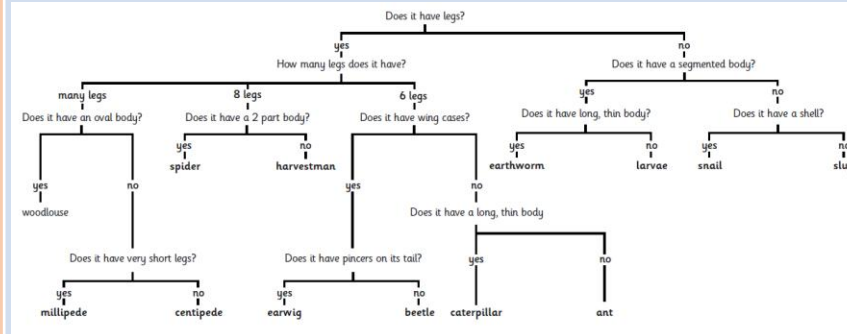
**Organisms** – living things  
**Life processes** – things to do to stay alive  
**Respiration** –using oxygen from the air to turn their food into energy  
**Sensitivity** –the way living things react to their environment  
**Reproduction** – the process in which young are produced  
**Excretion** – getting rid of waste products  
**Characteristics** – distinguishing features specific to a species  
**Vertebrates** –animals with a backbone  
**Invertebrates** –animals without a backbone  
**Classification** – where animals are placed into groups according to their similarities  
**Habitat** – the area an animal lives  
**Environment**– contains many habitats and these include areas where there are living and non-living things.

National Curriculum Science – working scientifically

- Asking relevant questions and using different types of scientific enquiries to answer them
- Setting up simple practical enquiries, comparative and fair tests
- Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- Identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings.

Key Learning continued...

You can use classification keys to help group, identify and name a variety of living things. Here is an example of an invertebrate classification key:



Changes to an environment can be natural or caused by humans. Changes can have a positive or negative effect. Here are some examples of things that can cause change to an environment:

Natural

- Earthquakes
- Storms
- Droughts
- Wildfires
- The seasons

Man-made

- Deforestation
- Pollution
- Urbanisation
- Creating new nature reserves
- Introduction of a new animal species



Scientific investigations

What type of animals do we have in our local environment?

- predict the types of animals we will find in our school grounds
- collect / identify animals in our school grounds
- Make observations and record findings

What types of animals are found in our local environment?

- Trip to Haddon Fields

## Sequence of learning – Living things and their habitats

- 1** **How can living things be grouped and sorted?** Recap 7 life processes (MRS GREN) that all living things do in order to be alive. Look at similarities and difference between living things. How can you sort living things? Sort a variety of living things using a range of characteristics into Venn and Carroll Diagrams.
- 2** **How can you sort and identify animals?** How do scientists sort animals that have been discovered? Introduce vertebrates and invertebrates. How are vertebrates grouped? Mammals, amphibians, birds, reptiles and fish. Use characteristics discussed last lesson and introduce classification keys – sort vertebrates using a classification key.
- 3** **How can you sort and classify plants?** Discuss differences between flowering and non-flowering plants (link to previous unit on plants) how can we sort plants – look the leaves. Go on a leaf hunt around school and collect samples, Sort these samples into a classification key.
- 4** **What is a habitat?** Recap what a habitat is. What types of habitats do we have locally (grassland, wooded areas, rivers) children research and compare two different habitats eg: polar, woodland, desert, grassland, pond what do the animals and plants in these habitats need?
- 5** **What types of animals do we have in our local habitat?**– go on an animal hunt around the school grounds. Collect specimens of different animals (discuss how to handle and look after the animals collected) Then use classification keys to identify them. What are the most commonly found animal in our school grounds?)
- 6** **What impact does environmental changes have on the habitats of animals?** Research how different environmental changes can affect different animals. Some of these changes have caused extinction others have positive impacts too.